

Attorney Docket No.: 00CON134P-DIV

In the Claims:**Claims 1-17 (canceled).****Claim 18 (currently amended):** A structure comprising:

a collector comprising a single crystal silicon;

a base comprising kinetically controlled growth mode single crystal silicon-germanium, wherein said base is grown at a first temperature and a first pressure of a precursor gas, said base and said collector forming a base-collector junction;

an emitter comprising polycrystalline silicon, said emitter and said base forming a base-emitter junction;

a base contact comprising mass controlled growth mode polycrystalline silicon-germanium, said base contact being in electrical contact with said base, wherein said base contact is grown at said first pressure and said first temperature of said precursor gas;

wherein said base contact and said base are characterized by a controlled deposition ratio, wherein said controlled deposition ratio causes said base contact to have a reduced resistance, and wherein said controlled deposition ratio provides a base contact deposition rate that is higher than a base deposition rate so as to cause a base contact thickness to be greater than a base thickness.

Attorney Docket No.: 00CON134P-DIV

Claim 19 (original): The structure of claim 18 wherein said base contact is grown concurrently with said base.

Claim 20 (original): The structure of claim 18 wherein said precursor gas comprises germanium and hydrogen.

Claim 21 (original): The structure of claim 18 wherein said first pressure is approximately 100 Torr.

Claim 22 (original): The structure of claim 18 wherein said first temperature is approximately 650° C.

Claim 23 (original): The structure of claim 18 wherein said base comprises approximately 8% germanium and 92% silicon.

Claim 24 (original): The structure of claim 18 wherein said base contact resistance is approximately 650 ohms per micrometer.

Claim 25 (currently amended): A structure comprising:

Attorney Docket No.: 00CON134P-DIV

a single crystal region situated over a first area, wherein said single crystal region comprises kinetically controlled growth mode single crystal silicon, wherein said single crystal region is grown at a first temperature and a first pressure of a precursor gas;

a polycrystalline region situated over a second area, wherein said polycrystalline region comprises mass controlled growth mode polycrystalline silicon, wherein said polycrystalline region is grown at said first temperature and said first pressure concurrently with said single crystal region;

wherein said polycrystalline region and said single crystal region are characterized by a controlled deposition ratio, wherein said controlled deposition ratio causes said base ~~contact~~ polycrystalline region to have a reduced resistance, and wherein said controlled deposition ratio provides a polycrystalline region deposition rate that is higher than a single crystal region deposition rate so as to cause a polycrystalline region thickness to be greater than a single crystal region thickness.

Claim 26 (previously presented): The structure of claim 25 wherein said first area comprises exposed single crystal silicon and said second area does not comprise said exposed single crystal silicon.

Claim 27 (previously presented): The structure of claim 25 wherein said precursor gas comprises germanium and hydrogen.

Attorney Docket No.: 00CON134P-DIV

Claim 28 (previously presented): The structure of claim 25 wherein said single crystal region comprises single crystal silicon-germanium and said polycrystalline region comprises polycrystalline silicon-germanium.

Claim 29 (previously presented): The structure of claim 25 wherein said single crystal region is in contact with said polycrystalline region.

Claim 30 (previously presented): The structure of claim 25 wherein said single crystal region is a base in a heterojunction bipolar transistor.

Claim 31 (previously presented): The structure of claim 25 wherein said polycrystalline region is a base contact in a heterojunction bipolar transistor.

Claim 32 (previously presented): The structure of claim 25 wherein said first temperature is approximately 650° C.

Claim 33 (previously presented): The structure of claim 25 wherein said first pressure is selected to promote said kinetically controlled growth mode over said first area and said mass controlled growth mode over said second area.

Attorney Docket No.: 00CON134P-DIV

Claim 34 (previously presented): The structure of claim 33 wherein said first pressure is approximately 100 Torr.

Claim 35 (previously presented): The structure of claim 25 wherein said polycrystalline region grows approximately twice as fast as said single crystal region.

Claim 36 (currently amended): A structure comprising:

- a single crystal silicon-germanium base having a first junction with a collector and a second junction with an emitter, wherein said single crystal silicon-germanium base comprises kinetically controlled growth mode single crystal silicon-germanium, wherein said single crystal silicon-germanium base is grown at a first temperature and a first pressure of a precursor gas;
- a polycrystalline silicon-germanium base contact in electrical contact with said single crystal silicon-germanium base, wherein said polycrystalline silicon-germanium base contact comprises mass controlled growth mode polycrystalline silicon-germanium, wherein said polycrystalline silicon-germanium base contact is grown concurrently with said single crystal silicon-germanium base at said first temperature and said first pressure;
- wherein said base contact and said base are characterized by a controlled deposition ratio, wherein said controlled deposition ratio causes said base contact to have a reduced resistance, and wherein said controlled deposition ratio provides a base contact deposition rate that is higher than a base deposition rate so as to cause a base contact thickness to be greater than a base thickness.

Attorney Docket No.: 00CON134P-DIV

Claim 37 (previously presented): The structure of claim 36 wherein said precursor gas comprises germanium and hydrogen.

Claim 38 (previously presented): The structure of claim 36 wherein a deposition ratio of said polycrystalline silicon-germanium base contact to said single crystal silicon-germanium base is approximately 2 to 1.

Claim 39 (previously presented): The structure of claim 36 wherein said first temperature is approximately 650° C.

Claim 40 (previously presented): The structure of claim 36 wherein said first pressure is approximately 100 Torr.

Claim 41 (previously presented): The structure of claim 36 wherein said single crystal silicon-germanium base comprises approximately 8% germanium and approximately 92% silicon.

Claim 42 (previously presented): The structure of claim 36 wherein said polycrystalline silicon-germanium base contact has a base contact resistance value of approximately 400 ohms.

Attorney Docket No.: 00CON134P-DIV

Claim 43 (previously presented): The structure of claim 36 wherein said single crystal silicon-germanium base is grown over exposed single crystal silicon and said polycrystalline silicon-germanium base contact is not grown over said exposed single crystal silicon.

Claim 44 (previously presented): The structure of claim 36 wherein said collector comprises single crystal silicon.

Claim 45 (previously presented): The structure of claim 36 wherein said emitter comprises polycrystalline silicon.

Claim 46 (previously presented): A structure comprising:

- a collector comprising a single crystal silicon;
- a base comprising kinetically controlled growth mode single crystal silicon-germanium, wherein said base is grown at a first temperature and a first pressure of a precursor gas, said base and said collector forming a base-collector junction;
- an emitter comprising polycrystalline silicon, said emitter and said base forming a base-emitter junction;
- a base contact comprising mass controlled growth mode polycrystalline silicon-germanium, said base contact being in electrical contact with said base, wherein said base contact is grown at said first pressure and said first temperature of said precursor gas;
- wherein said base comprises approximately 8% germanium and 92% silicon.

Attorney Docket No.: 00CON134P-DIV

Claim 47 (previously presented): A structure comprising:

a single crystal silicon-germanium base having a first junction with a collector and a second junction with an emitter, wherein said single crystal silicon-germanium base comprises kinetically controlled growth mode single crystal silicon-germanium, wherein said single crystal silicon-germanium base is grown at a first temperature and a first pressure of a precursor gas;

a polycrystalline silicon-germanium base contact in electrical contact with said single crystal silicon-germanium base, wherein said polycrystalline silicon-germanium base contact comprises mass controlled growth mode polycrystalline silicon-germanium, wherein said polycrystalline silicon-germanium base contact is grown concurrently with said single crystal silicon-germanium base at said first temperature and said first pressure;

wherein said single crystal silicon-germanium base comprises approximately 8% germanium and approximately 92% silicon.